

EMAILCORE WG

Online Madrid 2021

Chairs:

Alexey Melnikov <alexey.melnikov@isode.com>

Todd Herr <todd.herr@valimail.com>

Note Well

- This is a reminder of IETF policies in effect on various topics such as patents or code of conduct. It is only meant to point you in the right direction. Exceptions may apply. The IETF's patent policy and the definition of an IETF "contribution" and "participation" are set forth in BCP 79; please read it carefully.
- As a reminder:
 - By participating in the IETF, you agree to follow IETF processes and policies.
 - If you are aware that any IETF contribution is covered by patents or patent applications that are owned or controlled by you or your sponsor, you must disclose that fact, or not participate in the discussion.
 - As a participant in or attendee to any IETF activity you acknowledge that written, audio, video, and photographic records of meetings may be made public.
 - Personal information that you provide to IETF will be handled in accordance with the IETF Privacy Statement.
 - As a participant or attendee, you agree to work respectfully with other participants; please contact the ombudsteam (<https://www.ietf.org/contact/ombudsteam/>) if you have questions or concerns about this.

Note Well

(continued)

- Definitive information is in the documents listed below and other IETF BCPs. For advice, please talk to WG chairs or ADs:
 - BCP 9 (Internet Standards Process)
 - BCP 25 (Working Group processes)
 - BCP 25 (Anti-Harassment Procedures)
 - BCP 54 (Code of Conduct)
 - BCP 78 (Copyright)
 - BCP 79 (Patents, Participation)
 - <https://www.ietf.org/privacy-policy/> (Privacy Policy)

Administrivia

- This Meetecho session is being recorded
- Meetecho:
 - <https://meetings.conf.meetecho.com/ietf112/?group=emailcore&short=&item=1>
- Jabber room (discussions/back channel):
 - emailcore@jabber.ietf.org
- Shared note taking:
 - <https://notes.ietf.org/notes-ietf-112-emailcore>
- Note taker?

Agenda

- Agenda bashing, administrivia, note well (chairs) - 5 mins
- Status Update on 5322bis
- #17 (Deprecated Source Routes) <<https://trac.ietf.org/trac/emailcore/ticket/17>>
- #21 (Revisiting quoted strings) <<https://trac.ietf.org/trac/emailcore/ticket/21>>
- #49 (Email address comparison for equality) <<https://trac.ietf.org/trac/emailcore/ticket/49>>
- #52 (Abstract update) <<https://trac.ietf.org/trac/emailcore/ticket/52>>
- #53 (Informative references to MIME and/or Message Submission) <<https://trac.ietf.org/trac/emailcore/ticket/53>>
- #40 (Recommended SMTP Extensions) <<https://trac.ietf.org/trac/emailcore/ticket/40>>
- #34 (Erratum 1820: “forwarding” is used instead of “list”) <<https://trac.ietf.org/trac/emailcore/ticket/34>>
- #54 (Hop-by-hop Authentication and/or Encryption) <<https://trac.ietf.org/trac/emailcore/ticket/54>>
- **Interim meeting in early December 2021**
- Scope for Applicability Statement

RFC 5322 Status

Pete has two fixes in his working document:

- Fixed one bit of awkward text in the obsolete description
- Put back the *optional-field in the trace/resent block as per Alexey's email message

Need to clean out editors notes and put back in acknowledgments

Ready for WG last call unless something comes up in other 5321bis or A/S discussion

RFC 5321

G.7.10. Further clarifications needed to deprecated source routes?

<https://trac.ietf.org/trac/emailcore/ticket/17>

Background: RFC 5321 says that source routes are deprecated since 1989, yet at the same time servers must accept them and there are various SHOULDs about whether they can be ignored or rejected by servers, and about when clients can generate them. It also talks about using source routing to work around temporary DNS problems and for mail system debugging.

Should the document

a) Be stripped of all mentioning of handling of source routes in text and ABNF, other than to specify their historical use in RFC 821 and point to RFC 821 for implementations that want to implement them for backward compatibility;

or

b) Allow source routing in ABNF, but strengthen existing text to MUST NOT be used;

or

c) Make various parts of the document consistent in regards to allowing source routing only for "working around temporary DSN problems" and mail system debugging. Don't use the word "deprecated" when describing source routing, because basically this is not true in the 2 cases listed above

or

d) Other

Note: Mailing list expressed a preference for option A on November 5

RFC 5321

G.7.10. Further clarifications needed to deprecated source routes?

<https://trac.ietf.org/trac/emailcore/ticket/17>

Proposal related to option a)

2.1. Basic Structure

The last sentence:

Explicit "source" routing (see Section 5 and Appendix C and Appendix F.2) **SHOULD NOT** be used.

Proposal: remove Section 5 (it doesn't talk about source routing at all!), SHOULD NOT ==> **MUST NOT**

i.e., 'Explicit "source" routing (see Appendix C and Appendix F.2) **MUST NOT** be used.'

3.3. Mail Transactions

5th paragraph:

Historically, the <reverse-path> was permitted to contain more than just a mailbox; however, contemporary systems **SHOULD NOT** use source routing (see Appendix C).

Proposal: SHOULD NOT ==> **MUST NOT**

RFC 5321

G.7.10. Further clarifications needed to deprecated source routes?

<https://trac.ietf.org/trac/emailcore/ticket/17>

Proposal related to option a)

3.3. Mail Transactions

9th paragraph:

The <forward-path> can contain more than just a mailbox. Historically, the <forward-path> was permitted to contain a source routing list of hosts and the destination mailbox; however, contemporary SMTP clients **SHOULD NOT** utilize source routes (see Appendix C).

SHOULD NOT ==> **MUST NOT**

RFC 5321

G.7.10. Further clarifications needed to deprecated source routes?

<https://trac.ietf.org/trac/emailcore/ticket/17>

Proposal related to option a)

3.3. Mail Transactions

9th paragraph (continued):

Servers **MUST** be prepared to encounter a list of source routes in the forward-path, but they **SHOULD** ignore the routes or **MAY** decline to support the relaying they imply. Similarly, servers **MAY** decline to accept mail that is destined for other hosts or systems. These restrictions make a server useless as a relay for clients that do not support full SMTP functionality.
[...]

Proposal: Add a reference to RFC 821 for historic handling and delete this text?

Alternatively: strengthen requirements.

RFC 5321

G.7.10. Further clarifications needed to deprecated source routes?

<https://trac.ietf.org/trac/emailcore/ticket/17>

3.6.1. Source Routes and Relaying

In general, the availability of Mail eXchanger records in the domain name system (RFC 1035 [4], RFC 974 [16]) makes the use of explicit source routes in the Internet mail system unnecessary. Many historical problems with the interpretation of explicit source routes have made their use undesirable. SMTP clients **SHOULD NOT** generate explicit source routes except under unusual circumstances. SMTP servers **MAY** decline to act as mail relays or to accept addresses that specify source routes. When route information is encountered, SMTP servers **MAY** ignore the route information and simply send to the final destination specified as the last element in the route and **SHOULD** do so. There has been an invalid practice of using names that do not appear in the DNS as destination names, with the senders counting on the intermediate hosts specified in source routing to resolve any problems. If source routes are stripped, this practice will cause failures. This is one of several reasons why SMTP clients **MUST NOT** generate invalid source routes or depend on serial resolution of names in such routes.

When source routes are not used, the process described in RFC 821 for constructing a reverse-path from the forward-path is not applicable and the reverse-path at the time of delivery will simply be the address that appeared in the MAIL command.

RFC 5321

G.7.10. Further clarifications needed to deprecated source routes?

<https://trac.ietf.org/trac/emailcore/ticket/17>

4.1.1.3. RECIPIENT (RCPT)

2nd and 3rd paragraphs:

The forward-path normally consists of the required destination mailbox. Sending systems **SHOULD NOT** generate the optional list of hosts known as a source route. Receiving systems **MUST** recognize source route syntax but **SHOULD** strip off the source route specification and utilize the domain name associated with the mailbox as if the source route had not been provided.

Similarly, relay hosts **SHOULD** strip or ignore source routes, and names **MUST NOT** be copied into the reverse-path. When mail reaches its ultimate destination (the forward-path contains only a destination mailbox), the SMTP server inserts it into the destination mailbox in accordance with its host mail conventions.

RFC 5321

G.7.10. Further clarifications needed to deprecated source routes?

4.1.2. Command Argument Syntax

2nd sentence of the 1st paragraph:

Some of the productions given below are used only in conjunction with source routes as described in Appendix C.

And also:

A-d-l = At-domain *("," At-domain)
; Note that this form, the so-called "source
; route", **MUST BE** accepted, **SHOULD NOT** be
; generated, and **SHOULD** be ignored.

RFC 5321

G.7.10. Further clarifications needed to deprecated source routes?

Appendix C. Source Routes

Historically, the <reverse-path> was a reverse source routing list of hosts and a source mailbox. The first host in the <reverse-path> was historically the host sending the MAIL command; today, source routes **SHOULD NOT** appear in the reverse-path. Similarly, the <forward-path> may be a source routing lists of hosts and a destination mailbox. However, in general, the <forward-path> **SHOULD** contain only a mailbox and domain name, relying on the domain name system to supply routing information if required. The use of source routes is deprecated (see Appendix F.2); while servers **MUST** be prepared to receive and handle them as discussed in Section 3.3 and Appendix F.2, clients **SHOULD NOT** transmit them and this section is included in the current specification only to provide context. It has been modified somewhat from the material in RFC 821 to prevent server actions that might confuse clients or subsequent servers that do not expect a full source route implementation.

Historically, for relay purposes, the forward-path may have been a source route of the form "@ONE,@TWO:JOE@THREE", where ONE, TWO, and THREE **MUST** be fully-qualified domain names. This form was used to emphasize the distinction between an address and a route. The mailbox (here, JOE@THREE) is an absolute address, and the route is information about how to get there. The two concepts should not be confused.

RFC 5321

G.7.10. Further clarifications needed to deprecated source routes?

Appendix C. Source Routes (continued)

If source routes are used contrary to requirements and recommendations elsewhere in this specification, RFC 821 and the text below should be consulted for the mechanisms for constructing and updating the forward-path. A server that is reached by means of a source route (e.g., its domain name appears first in the list in the forward-path) **MUST** remove its domain name from any forward-paths in which that domain name appears before forwarding the message and **MAY** remove all other source routing information. The reverse-path **SHOULD NOT** be updated by servers conforming to this specification.

-- Is this paragraph consistent with the rest of the document?

Notice that the forward-path and reverse-path appear in the SMTP commands and replies, but not necessarily in the message. That is, there is no need for these paths and especially this syntax to appear in the "To:" , "From:", "CC:", etc. fields of the message header section. Conversely, SMTP servers **MUST NOT** derive final message routing information from message header fields.

RFC 5321

G.7.10. Further clarifications needed to deprecated source routes?

Appendix C. Source Routes (continued)

When the list of hosts is present despite the recommendations and requirements above, it is a "reverse" source route and indicates that the mail was relayed through each host on the list (the first host in the list was the most recent relay). This list is used as a source route to return non-delivery notices to the sender. If, contrary to the recommendations here, a relay host adds itself to the beginning of the list, it **MUST** use its name as known in the transport environment to which it is relaying the mail rather than that of the transport environment from which the mail came (if they are different). Note that a situation could easily arise in which some relay hosts add their names to the reverse source route and others do not, generating discontinuities in the routing list. This is another reason why servers needing to return a message **SHOULD** ignore the source route entirely and simply use the domain as specified in the Mailbox.

RFC 5321

G.7.10. Further clarifications needed to deprecated source routes?

F.2. Source Routing

RFC 821 utilized the concept of explicit source routing to get mail from one host to another via a series of relays. The requirement to utilize source routes in regular mail traffic was eliminated by the introduction of the domain name system "MX" record and the last significant justification for them was eliminated by the introduction, in RFC 1123, of a clear requirement that addresses following an "@" must all be fully-qualified domain names.

Consequently, the only remaining justifications for the use of source routes are support for very old SMTP clients or MUAs and in mail system debugging. They can, however, still be useful in the latter circumstance and for routing mail around serious, but temporary, problems such as problems with the relevant DNS records.

RFC 5321

G.7.10. Further clarifications needed to deprecated source routes?

F.2. Source Routing (continued)

SMTP servers **MUST** continue to accept source route syntax as specified in the main body of this document and in RFC 1123. They **MAY**, if necessary, ignore the routes and utilize only the target domain in the address. If they do utilize the source route, the message **MUST** be sent to the first domain shown in the address. In particular, a server **MUST NOT** guess at shortcuts within the source route.

Clients **SHOULD NOT** utilize explicit source routing **except under unusual circumstances, such as debugging or potentially relaying around firewall or mail system configuration errors.**

RFC 5321

G.9.Revisiting quoted strings and Email comparison for equality

<https://trac.ietf.org/trac/emailcore/ticket/21>

<https://trac.ietf.org/trac/emailcore/ticket/49>

In Section "4.1.2. Command Argument Syntax", the 1st paragraph after the ABNF syntax:

While the above definition for Local-part is relatively permissive, for maximum interoperability, a host that expects to receive mail SHOULD avoid defining mailboxes where the Local-part requires (or uses) the Quoted-string form or where the Local-part is case-sensitive. **For any purposes that require generating or comparing Local-parts (e.g., to specific mailbox names), all quoted forms MUST be treated as equivalent, and the sending system SHOULD transmit the form that uses the minimum quoting possible.**

Suggestion to **add to the end**:

For example, the following 3 Local-parts are semantically equivalent and must compare equal: "ab cd ef", "ab\ cd ef" and "ab\ \cd ef".

White space reduction MUST NOT be applied to Local-part by intermediate systems.

Also **add an informative reference to A/S for more examples and advice on interoperability?**

RFC 5321

G.9.Revisiting quoted strings and Email comparison for equality (continued)

<https://trac.ietf.org/trac/emailcore/ticket/21>

<https://trac.ietf.org/trac/emailcore/ticket/49>

In Section "4.1.2. Command Argument Syntax", the 3rd paragraph after the ABNF:

Note that the backslash, "\", is a quote character, which is used to indicate that the next character is to be used literally (instead of its normal interpretation). For example, "Joe\,Smith" indicates a single nine-character user name string with the comma being the fourth character of that string.

Suggestion to move this paragraph up before the 1st paragraph after the ABNF. This way examples suggested above would make more sense.

RFC 5321

G.7.14. Abstract Update

<https://trac.ietf.org/trac/emailcore/ticket/52>

Abstract (from rfc5321bis-05):

This document is a specification of the basic protocol for Internet electronic mail transport. It consolidates, updates, and clarifies several previous documents, making all or parts of most of them obsolete. It covers the SMTP extension mechanisms and best practices for the contemporary Internet, but does not provide details about particular extensions. ***Although SMTP was designed as a mail transport and delivery protocol, this specification also contains information that is important to its use as a "mail submission" protocol for "split-UA" (User Agent) mail reading systems and mobile environments.*** This document replaces RFC 5321, the earlier version with the same title.

Next to the last sentence talks about "mail submission", which is now covered by RFC 6409, but rfc5321bis also talks about some aspects of mail submission. So suggestion to replace it with:

The document also provides information about use of SMTP for other than strict mail transport and delivery.

RFC 5321

G.7.15 Informative References to MIME and/or Message Submission

<https://trac.ietf.org/trac/emailcore/ticket/53>

Last paragraph of Section 1.2. History and Context for This Document:

A companion document, RFC 5322 [12], discusses message header sections and bodies and specifies formats and structures for them.

Suggestion not to mention MIME (RFC 2045, RFC 2046, etc.) here, as it seems to be more appropriate for rfc5322bis (or draft-ietf-emailcore-as).

Suggestion to add to the end:

Other relevant documents and their relationships are discussed in a forthcoming Applicability Statement [draft-ietf-emailcore-as].

And then draft-ietf-emailcore-as can talk about message submission, common SMTP extensions, etc.

A/S

Recommended SMTP Extensions

<https://trac.ietf.org/trac/emailcore/ticket/40>

rfc5321bis is not the right place for this.

Proposal put mention of the following in the A/S, and in order to comply with the A/S first three **MUST** be supported, while last two **SHOULD** be supported.

8BITMIME (RFC 6152) - **MUST**

Enhanced Reply Codes (RFC 5248) - **MUST**

DSNs (RFC 3461) - **MUST**

PIPELINING (RFC 2920) - **SHOULD**

SMTPUTF8 (a.k.a. EAI) (RFC 6531) - **SHOULD**

Anything else?

For comparison, RFC 6409 lists all of the following as **SHOULD**:

8BITMIME, Enhanced Reply Codes, DSNs and PIPELINING

RFC 5321

Erratum 1820: “forwarding” is used instead of “list”

<https://trac.ietf.org/trac/emailcore/ticket/34>

3.9.2. List

A mailing list may be said to operate by "redistribution" rather than by "forwarding".

[...Later in the same paragraph...]

Note that the key difference between handling aliases (Section 3.9.1) and **forwarding** (this subsection) is the change to the backward-pointing address in this case.

The erratum 1820 correctly points out that "forwarding" in the above sentence looks like a cut & paste error. Should it be replaced with "**redistribution**"?

Proposed replacement is in rfc5321bis-06.

RFC 5321 => **A/S**

Hop-by-hop Authentication and/or Encryption

<https://trac.ietf.org/trac/emailcore/ticket/54>

Question posed by ticket - Should this document discuss hop-by-hop authentication or, for that matter, encryption?

Proposal:

- Address these topics in forthcoming A/S
- Have initial text available for discussion during interim in December

Floor is open...

Interim in early December?

December 6th-10th in a timezone convenient for East Coast US/West Coast US/Europe.

Would be good to concentrate on terminology related tickets.

Suggested scope for the “Core Email Applicability Statement”

- Best practices on use of SMTP, email format/MIME.
- Don't touch POP/IMAP/JMAP or Sieve
 - They IMAP/Sieve and JMAP have their own WGs (EXTRA and JMAP respectively)
- Don't touch SMTP Submission (RFC 6409) this time around
- Reference DMARC/DKIM/SPF?
 - Note that DMARC has its own WG, so not doing any work here